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Final Report for U. S. Office of Education

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The Effectiveness of Academic Interest Scales in Predicting College Achievement

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Because of the limitations in aptitude or achievement measures in predicting college achievement, a variety of non-intellective measures have been used to evaluate academic potential (Super & Crites, 1962). Interest inventories, as measures of academic motivation, appear to be particularly relevant for this purpose.

The Strong Vocational Interest Blank (SVIB), an extremely well-researched instrument (Center for Interest Measurement Research, 1964; Buros, 1966), has been most thoroughly studied in this regard. Single scales, scales in combination, and newly constructed scales have been studied.

In general, the SVIB scales have yielded insignificant or very low correlations with college achievement (Berdie, 1960). Although using the scales in combination may be slightly more predictive (Maier, 1958), the computational labor involved in combining the scores suggests that a new scale, specifically designed to predict academic achievement, might be most effective.

One of the first attempts to develop an academic achievement scale on the SVIB was reported by Young and Estabrooks (1937). The Young-Estabrooks Studiousness Scale, which significantly predicted achievement for students at Colgate Univer-

sity, showed considerably less promise when cross-validated at other institutions (Mosier, 1937; Williamson, 1937; Williamson, 1938).

After the disappointing results with the Studiousness Scale, apparently no serious attempt to develop a new academic interest scale on the SVIB for Men was undertaken for some years. England (1956) attempted to develop two achievement scales to predict both grades and total number of credits taken in engineering courses at the University of Minnesota. Neither of the scales survived cross-validation study with other samples of engineering students drawn from the same institution.

Recently, several new scales (Campbell & Johansson, 1966; Martin, 1964; Rust & Ryan, 1954) have been developed from SVIB items which have succeeded in discriminating among high and low achievers. The academic interest scales have been developed to aid both in predicting academic achievement and in understanding the motivational and temperamental factors associated with academic success.

Rust & Ryan (1954) developed scales to predict over-achievement, normal achievement, and underachievement at Yale University. Recently, McArthur (1965) tried these scales with two samples of students at Harvard University. He found that the scales "worked well" in this setting.

Martin (1964), working with both males and females enrolled in liberal arts and males in engineering at the University

of Pittsburgh, constructed two academic interest scales (an original scale plus an abbreviated scale) from SVIB items for each of these groups. The scales were thoroughly cross-validated at the University of Pittsburgh.

While both the Martin and the Rust and Ryan keys were developed to predict the variance in the criterion (freshman grades) not associated with intellective factors, Campbell & Johansson (1966) developed their academic interest scale independent of any consideration of other predictor variables. As a result, while their scale correlated significantly with first year grade point average in the cross-validation study at the University of Minnesota ($r = .36$), it did not significantly contribute to a multiple correlation coefficient consisting of a scholastic aptitude test and high school rank in predicting grades. They justify their scale as enabling others to better understand the personal, motivational characteristics associated with high and low grades. This new nonoccupational interest scale has been added to the profile of the 1966 revision of the SVIB (Campbell, 1966).

Will these various academic interest scales be effective in predicting achievement in a new academic setting? The present study addressed itself primarily to this question. Several additional questions concerning the practical application of the academic interest scales were also asked: (a) Are the SVIB scales more effective than a simple, single-item, self-rating scale? Holland and Lutz (1968), in particular, have argued

that simple, direct questions might produce results as effective as, or possibly more effective than, long lists of inventory items. (b) Are academic interests more critical in influencing academic performance for "marginal" students? Clark (Clark, 1961; Clark & Campbell, 1965) has presented data suggesting that when learning ability was "just adequate," the correlation between interests and achievement was more pronounced. (c) Is the degree of relationship affected if the students take the inventory with instructions that the results may be used for placement purposes? While it has been long known that the SVIB profile may be rather easily faked, the effect of such distortion is not well established. Some studies (e.g., Ruch & Ruch, 1967) suggest that "real life" incentives to fake may actually improve the predictive validities of inventories. If the subject knows for what purposes the tests will be used, he will be better able to indicate the specific role which he is willing to play in that particular situation (Hathaway, 1960).

Method

Subjects

The sample consisted of 301 freshman males enrolled in the College of Arts and Sciences (A&S) and 100 freshman males enrolled in the School of Business Administration (SBA) at the University of Massachusetts who participated in the summer orientation program in 1967. Eleven of the A&S students and two of the SBA students were dropped from the final sample

because of failure to enroll in college, failure to complete the first semester, or lack of Scholastic Aptitude Test scores.

Measuring Instruments

Each student was asked to complete the SVIB and a single item, self-evaluation rating scale (see Figs. A and B in Appendix). The SVIB was scored to yield the following seven academic interest measures: (1-4) Overachievers, Normalachievers, Underachievers, Overachievers minus Underachievers (O minus U) (Rust & Ryan, 1954); (5-6) Academic Interest Scale (AIS): Liberal Arts Males (LAM), 1959 version, Long and Short Forms (Martin, 1964), and (7) Academic Achievement Scale (Campbell & Johansson, 1966). The self-evaluation rating scale was used to obtain the student's estimate of his first semester academic performance compared with other first semester freshman males enrolled at the University.

The instructions for both the SVIB and the self-rating scale were modified for approximately one-fourth of the total sample. The modified instructions informed the students that the results might be used in placing them in advanced courses. The specific instructions are given below. The routine SVIB instructions read as follows:

> "Among other things, research has shown that this test is helpful in making vocational and educational plans. The test enables the student to compare his interests with those of people employed in various occupations. High scores indicate occupational similarity; low scores indicate dissimilarity. The test results serve as an index of the type of work which you will find interesting. The results will be used in discussing oc-

cupational and educational plans with you."

The modified SVIB instructions read as follows:

"Among other things, research has shown that this test is a fairly good index of academic motivation. Students who receive high 'academic motivation' scores generally do well in their college courses. Students who obtain low 'academic motivation' scores often experience difficulty in their courses. The test results may serve as a measure of your motivation or desire to do well in your course work. As such, the results may be used to guide your placement in some of our more challenging courses."

Similarly, the instructions for the self-rating scale were varied. The routine instructions began as follows:

"Your estimate of your first semester academic performance will be helpful to your counselor in discussing your program of courses with you."

The modified instructions began as follows:

"Your estimate of your first semester performance will be used as an index of your desire to do well in your coursework. As such, it may be used as a guide in placing you in some of our more challenging courses."

Every fourth student was given the modified instructions. Of the 290 A&S students included in the final sample, 68 received the modified instructions. Of the 98 SBA students in the final sample, 26 received the modified instructions.

The 1966 revision of the SVIB (Strong & Campbell, 1966) was used. As 109 of the 400 items on the SVIB were dropped, both the Rust and Ryan and the Martin scales, which were based on the old form of the SVIB, have fewer items on the new form. The effect of this reduction in the number of items on the intercorrelation of the old form with the new form and upon test-retest reliability was determined by means of a sample of 101 young adults who took the old form of the SVIB

(which includes all the items scored on the new form) twice over a 30-day interval.[1]

Predicted grade point averages (PGPA), obtained by means of a multiple regression equation based upon Converted Class Rank and Scholastic Aptitude Test Verbal and Mathematical scores, are routinely calculated for all entering freshmen (Glover, 1963). The current version of this formula for freshman males enrolled in either Arts and Sciences or Business Administration is: PGPA = .01 SAT-Verbal + .038 Converted Class Rank - .545. Both SAT-Verbal and Converted Class Rank are expressed as T-scores with a mean of 50 and a standard deviation of 10.

Data Analysis

The relationship between the academic interest scales and first semester grade point average (GPA) was determined for the following groups of subjects: A&S students (routine instructions), SBA students (routine instructions), A&S and SBA students (routine instructions), A&S and SBA students (modified instructions), and high, middle, and low predicted grade point average groups.

The A&S and SBA students were combined in some instances to increase the size of N. This combination appears to be justified in that the two groups of students are enrolled in essentially the same program of courses for the first semester.

The A&S students were divided as equally as possible into three levels of PGPA. High predicted grade point average

(PGPA = 2.3 or higher; N=81), middle predicted grade point average (PGPA = 2.1 or 2.2; N=85), and low predicted grade point average (PGPA = 2.0 or lower; N=56) groups were formed.

Both zero order and multiple correlation coefficients were computed. The significance of the increase in multiple R due to the inclusion of additional variables was tested by means of the analysis of variance procedure described in McNemar (1962, p. 284).

Results

The use of the revised version of the SVIB did not appreciably affect the relative scores of the Ss (see Table 1). The intercorrelation of the old and the revised forms was in no case less than .93. The test-retest reliabilities were virtually the same for both the old (long) and the revised (short) forms of the scales.

Insert Table 1 about here

The means and standard deviations of variables for all groups of Ss are shown in Table 2. It may be noted that most of the students rated themselves well above average in predicting their first semester class standing. The mean scores on the various academic interest scales are roughly comparable to the mean scores of various groups of college students reported in the literature (McArthur, 1965; Campbell & Johansson,

1966).

Insert Table 2 about here

The intercorrelations of the predictor variables for the Arts & Sciences students are reported in Table 3.[2] Surprisingly, the various measures of academic interest were lowly intercorrelated. None of the r's for the separate scales (excluding scales which are based in part upon one of the other scales, e.g., the O minus U score or the Martin scales) exceeded .42. Inspection of the item content for the various scales indicated relatively little overlapping (20-40%) in the use of specific items. Roughly 15-25% of the items which did overlap were scored in the opposite direction.

Insert Table 3 about here

The main findings in the study are reported in Tables 4 and 5. The academic interest scales predicted first semester performance as effectively as the PGPA regression formula. All of the r's tended to run fairly low, no r exceeding .40.

Insert Tables 4 & 5 about here

The most successful academic interest scales for these students were the Rust & Ryan scales, particularly the Overachiever scale and the O minus U score, and, secondly, the Campbell and Johansson Academic Achievement scale. The Martin scales and the self-evaluation scale did not significantly

correlate with GPA for any of the groups.

While the direction of the relationship between the SVIB scales and GPA for the three ability groups supports the hypothesis that the relationship would be greater for the lower, or "marginal" students, the r's were not significantly different from each other. A greater number of significant r's were found with the low and middle groups, however, than for the high group.

The correlations were not any higher for the motivated, "placement" group than for the "discussion" groups. Only Campbell and Johansson's scale predicted GPA significantly for this group.

Finally, as shown in Table 5, the magnitude of the relationship between the best predictor and GPA was significantly increased by the addition of a second or third variable in at least some circumstances. The total amount of variance accounted for (15 or 16% at most) is still relatively small, but, nonetheless, some of the error in prediction has been reduced.

Discussion

With the exception of Campbell and Johansson's scale, the test-retest reliabilities of the academic interest scales are not sufficiently high for routine individual interpretation. Although the test-retest reliabilities are higher than the reported split-half reliability coefficients (Rust & Ryan, 1954;

Martin, 1964), presumably due to the heterogeneous nature of the item content, the reliabilities still average only in the .70 to .75 range. If the scales could be increased in length by using items of comparable validity, the test-retest reliabilities could be substantially improved (Abrahams, 1967). Until such an event, the scales may be most safely used for group interpretations or for forming (not testing) hypotheses regarding individuals.

The modest reliabilities attenuate the maximum validities possible for the scales. Despite this limitation, the Rust and Ryan scales, together with the Campbell and Johansson scale, possessed promising validity for use with the students in this study. The Overachievers scale, O minus U score, and Academic Achievement scale correlated as highly as the predicted grade point average index with first semester grades and, furthermore, contributed significantly to a multiple R, consisting in part of predicted grade point average, in predicting academic achievement.

Although the scales are only moderately related with GPA, if extreme scores (e.g., plus or minus one standard deviation) are used as cut-offs, relatively accurate classification of successful or unsuccessful students would be possible (Taylor & Russell, 1939). By using such cut-off points on the Overachievers scale for "low PGPA" students, for example, accurate classification (success = C minus grade or better) of 93% of the students (14 out of 15) was obtained. With the collection

of local cross-validation data, expectancy tables for converting the scores of very low and very high scoring students into GPA probabilities may be profitably constructed.

The ineffectiveness of the Martin scales and the self-evaluation scale in predicting GPA needs some explanation. The composition of the student body and/or the courses comprising the first-year schedule apparently varied sufficiently from that of the University of Pittsburgh to prevent successful cross-validation of the Martin scales. The scales themselves, although constructed in a manner somewhat different from either the Rust & Ryan or Campbell and Johansson scales, are not at fault in that they did effectively predict academic performance for successive samples at Pittsburgh.

As a one-item measure, the self-evaluation scale may have lacked adequate reliability to predict grade performance. The fact that nearly all the students rated themselves above average suggests that the students' self-perceptions were not very accurate at best. Both Torrance (1954) and Stone (1962) report a similar tendency on the part of students to overestimate their academic potential. Torrance also found very little relationship between self-predicted grades and achieved grades. Stone did not report the predictive validities of the students' self-ratings.

The lack of a significant relationship between self-predicted and obtained grades contrasts sharply with Young's (1954) and O'Hara's (1966) findings that such self-ratings

added significantly to multiple R's consisting of various aptitude measures in predicting academic success. In both the Young and the O'Hara studies, however, the students made their self-estimates sometime after school had started; in fact, their grades had already been in part determined by examinations which they had taken. It is worth noting that students do respond to feedback they receive within their environment; however, the technique loses any meaning as a precollege index of potential academic achievement. The main value of precollege ratings, as observed by Torrance (1954), may be to involve the students more deeply in test interpretation and to assist the counselor in determining how resistant the student will be in accepting test results. The scale may reveal the student's wish to succeed but not necessarily reflect any added effort on his part to insure success.

Although clear-cut statistically significant differences among the sizes of the r's for the three PGPA groups failed to emerge, the findings were in the expected direction. The difficulty in cross-validating results found with such subdivisions of the total sample has been clearly illustrated by Hakel (1966). Perhaps more carefully refined PGPA groups, as well as a larger N, would have produced more definitive results in the present study. The relationship between ability and achievement at different motivation levels also needs further exploration (French, 1958).

The modified instructions indicating that the test results

might be used in advanced placement apparently did not greatly influence the scores for the students. The means and standard deviations for both the "placement" and the "discussion" groups were approximately the same. The predictive validity coefficients were of approximately the same magnitude for each group. If anything, the r's appeared to run slightly lower for the "placement" group than for the "discussion" group. This result fails to support the hypothesis that "sensible distortion," which may occur in real-life situations (Gellerman, 1963), may actually increase the validity of the test scores. The findings are in accord with Walsh's (1967, 1968) observation that validity of self-report is not greatly affected by incentives to distort. Perhaps more critical instructions (e.g., results would be used in selection instead of advanced placement) or a different test-taking atmosphere (SVIB administered at the same time as entrance examinations) would have had a greater impact on the results.

Possibly the items on the Rust & Ryan scales, the scales showing the greatest differences in predictive validity, are too subtle to be easily guessed. The items reflect "conscientious perseverance" (McArthur, 1965), not academic ability. The Academic Achievement Scale, the only valid scale for the "placement" groups, on the other hand, was developed to predict grade-getting ability in general, not just over- or under-achievement. For this reason, it might be a more transparent scale. The relatively high correlation between the Academic

Achievement scale and the self-rating scale ($r = .35$) supports this interpretation.

The use of academic interest scales should aid not only in prediction, but should also contribute to the understanding of academic motivation. Study of the content of the empirical scales, although possibly misleading if not supported by theoretical assumptions, may serve as a source of hypotheses for additional research in this regard. The content of the Overachievers scale, perhaps the single most efficient predictor, indicates that achievement beyond one's predicted level is associated with items suggesting conservatism (playing safe, not loaning money), conventionality (lack novel ideas, work where can stay in one place), conscientiousness (plan work in detail), passive feminine interests (birdwatching, music teaching), and lack of mechanical interests (auto mechanic, adjusting a carburetor). The above description agrees rather well with Nichols' (1966) observation that students who get good grades are likely to be "compulsive and conforming."

In some regards, the indication that the successful college student is compulsive and conforming is depressing. The validity of college grades as predictors of life accomplishments needs further study. New criteria, for example, extra-curricular achievements, should probably be added to college grades as measures of college success (Holland, 1960; Nichols, 1966). Some means of identifying and reinforcing both the persevering

student and the creative student need to be developed.

College grades as a criterion may also be better understood by considering both separate courses and consistency of achievement. Krathwohl (1952) has pointed to the low intercorrelations among grades in different subjects. A student may perform well in certain areas, poorly in others. Variables which predict performance in one subject may not predict performance in other subjects (Maier, 1958; Johnson, Keochakian, Morningstar, & Southworth, 1968). Consistency of achievement over several terms may serve as a more reliable criterion than achievement during any one semester (DeSena, 1964).

Additional motivational variables, for example, anxiety (Grooms & Endler, 1960) or commitment to major field (Sugarman, 1968), which may influence achievement, need to be considered together with the variables explored in this study. The influence of other nonintellective factors which may moderate the relationship between tested ability and academic achievement, for example, age, socio-economic class, parental identification, or various life history variables, must also be considered within the framework of a multivariate statistical design.

Finally, while research on the motivational factors associated with academic performance suggests a correlational study, experimental investigations, although few in number, may prove beneficial. Efforts to affect the motivation of the students (e.g., Brown, 1965; Thompson & Hunnicutt, 1944)

or to modify the situation (e.g., McKeachie, Pollie, & Speisman, 1955) are needed to complement the correlational studies.

Summary

The predictive validities of various SVIB academic interest scales were assessed with first semester freshman males at the University of Massachusetts. Both the Rust & Ryan and the Campbell & Johansson scales contributed significantly, albeit modestly, to a multiple correlation coefficient consisting of high school rank and scholastic aptitude test results in predicting academic performance. A single-item self-evaluation rating scale failed to predict grade point average significantly. Although the degree of relationship between the interest scales and grade record tended to be somewhat greater for the "marginal" students, the r's were not significantly different from those obtained with the more able students. The use of modified, "placement" instructions did not greatly affect the mean scores or the magnitude of the correlations. Recommendations for future research were made.

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Footnotes

[1] These data were generously supplied by Dr. David P. Campbell, Director, Center for Interest Measurement Research. The composition of the sample is described elsewhere (Strong & Campbell, 1966, p.27).

[2] The intercorrelations of the predictor variables for the other groups of subjects, which are very similar to the intercorrelations for the A&S students, are shown in Tables A, B, and C in the Appendix.

Table 1

Test-retest Reliabilities of Old and Revised Forms of SVIB Academic Interest Measures

(N = 101)

	No. of Items	Test M	Test SD	Retest M	Retest SD	Test-retest reliability	Intercorrelation of old and revised forms
Rust & Ryan Scales							
Normalachievers[a]							
Revised	24	.7	3.6	1.1	3.8	.72	.96
Old	29	.5	4.2	1.1	4.3	.72	
Overachievers[a]							
Revised	23	2.1	3.3	1.5	3.2	.74	.93
Old	34	3.1	3.9	2.2	4.0	.77	
Underachievers[a]							
Revised	37	-2.6	4.2	-2.9	4.2	.67	.98
Old	43	-2.9	4.3	-3.3	4.6	.68	
O minus U							
Revised		4.8	5.8	4.4	5.7	.72	.97
Old		6.1	6.3	5.5	6.3	.72	
Martin Scales (LAM)							
AIS-Short[b]							
Revised	24	13.7	2.9	13.5	2.9	.77	.96
Old	31	17.9	3.4	17.6	3.3	.74	
AIS-Long[b]							
Revised	83	46.9	6.0	45.9	6.5	.76	.97
Old	107	60.1	7.1	58.2	7.6	.76	
Campbell & Johansson Scale							
Academic Achievement[c]	55	48	12	47	12	.88	

[a]Responses weighted -1, 0, or +1
[b]Responses weighted 0 or 1
[c]Data from SVIB Manual

Table 2

Means and Standard Deviations of Variables for all Groups

Variable		Groups						
		Arts & Sciences	School of Business Administration	A&S & SBA	"Placement"	High PGPA	Middle PGPA	Low PGPA
		N=222	N=72	N=294	N=94	N=81	N=85	N=56
Self-Rating Scale	Mean	68.1	63.9	67.1	68.3	72.2	66.2	64.9
	SD	12.2	12.2	12.3	11.9	11.4	11.9	12.4
Rust & Ryan Scales								
Underachievers	Mean	-.3	-.2	-.3	-.4	-.6	-.8	.9
	SD	4.8	4.2	4.7	4.4	4.9	5.0	4.3
Normalachievers	Mean	-1.6	.3	-1.2	-1.2	-1.4	-1.7	-1.8
	SD	3.7	3.4	3.7	3.5	3.9	3.8	3.3
Overachievers	Mean	.3	.3	.3	.2	1.0	.2	-.4
	SD	2.9	2.8	2.8	3.4	2.7	3.0	2.8
O minus U	Mean	.5	.5	.3	.5	1.5	.9	-1.5
	SD	6.2	5.0	5.9	5.8	5.9	6.5	5.5
Campbell & Johansson Scale								
Academic Achievement	Mean	46.1	34.9	43.3	44.1	48.7	44.0	45.4
	SD	11.4	11.6	12.3	12.6	10.4	12.2	11.0
Martin Scales (LAM)								
AIS-Short	Mean	11.8	14.7	12.5	12.7	12.2	11.4	11.8
	SD	3.0	6.9	4.5	4.1	2.5	3.3	3.0
AIS-Long	Mean	43.9	41.4	43.3	43.1	45.4	42.8	43.3
	SD	6.0	6.3	6.2	6.2	5.8	5.4	6.9
Grade Point Average	Mean	2.1	1.8	2.0	2.0	2.3	2.0	1.9
	SD	.7	.6	.7	.6	.7	.6	.6
Predicted Grade Point Average	Mean	2.2	2.1	2.2	2.2	2.4	2.2	1.9
	SD	.2	.2	.2	.2	.1	.1	.2

Table 3

Intercorrelations of Academic Interest Scales for Arts & Science Students

(N = 222)

	U	N	O	O-U	Aca Ach	AIS-Short	AIS-Long	Predicted Grade-Pt. Average
Self-Rating Scale	-.06	-.03	.11	.10	.35^{xx}	.05	.15^{x}	.22^{xx}
Rust & Ryan Scales								
Underachievers		-.42^{xx}	-.21^{xx}	-.88^{xx}	-.09	-.20^{xx}	-.14^{x}	-.11
Normalachievers			.03	.34^{xx}	-.09	.13	.10	.04
Overachievers				.64^{xx}	.26^{xx}	.42^{xx}	.40^{xx}	.16^{x}
O minus U					.20^{xx}	.35^{xx}	.28^{xx}	.18^{xx}
Campbell & Johansson Scale								
Academic Achievement					.40^{xx}	.34^{xx}	.13	
Martin Scales (LAM)								
AIS-Short						.69^{xx}	.06	
AIS-Long							.11	

^{x} $p<.05$
^{xx} $p<.01$

Table 4

Correlation Between Academic Interest Scales

and First Semester Grade Point Average

Predictors	School of A&S Arts & Sciences N=222	Business Admin. N=72	A&S & SBA N=294	"Placement" N=94	High PGPA N=81	Middle PGPA N=85	Low PGPA N=56
Self-Rating Scale	.00	.12	.05	.19	-.11	.00	-.07
Rust and Ryan Scales							
Underachievers	-.18^{xx}	-.01	-.15^{xx}	.02	-.17	-.13	-.26
Normalachievers	.08	.07	.04	-.02	.08	.03	.16
Overachievers	.31^{xx}	.07	.26^{xx}	.16	.19	.31^{xx}	.37^{xx}
O minus U	.30^{xx}	.23^{x}	.29^{xx}	.06	.23^{x}	.26^{x}	.40^{xx}
Campbell & Johansson Scale							
Academic Achievement	.17^{x}	.02	.18^{xx}	.29^{xx}	.13	.14	.15
Martin Scales (LAM)							
AIS-Short	.12	.14	.06	.15	.07	.16	.05
AIS-Long	.09	-.08	.08	.10	.06	.01	.10
Predicted Grade Point Average	.19^{xx}	.32^{xx}	.24^{xx}	.20	.11	.18	-.16

^{x} $p<.05$
^{xx} $p<.01$

Table 5

Significant Multiple Correlations

Arts & Sciences	222	.34	Overachievers Scale, Predicted Grade Point Average
Arts & Sciences	222	.24	Academic Achievement Scale, Predicted Grade Point Average
Arts & Sciences plus School of Business Administration	294	.38	Overachievers minus Underachievers, Predicted Grade Point Average, Underachievers
Arts & Sciences plus School of Business Administration	294	.28	Academic Achievement Scale, Predicted Grade Point Average
Middle PGPA (Arts & Sciences)	85	.39	Overachievers, Predicted Grade Point Average

Appendix

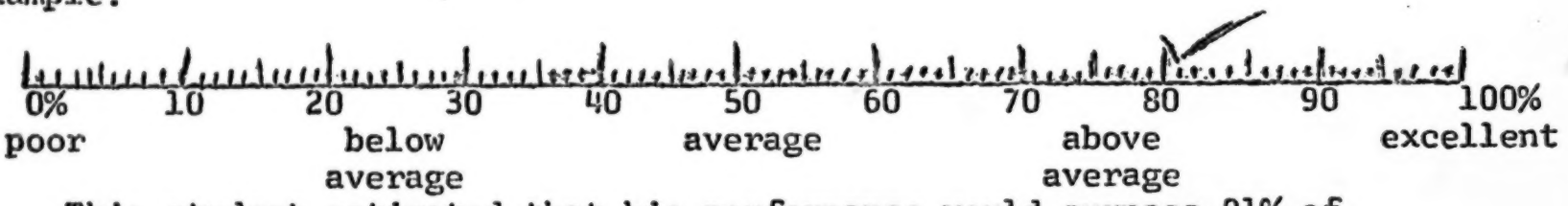
ESTIMATE OF FIRST SEMESTER ACADEMIC PERFORMANCE

Name_____
First Middle Initial Last

Your estimate of your first semester academic performance will be helpful to your counselor in discussing your program of courses with you.

Below is shown a line with 100 percentage points on it. Mark as closely as possible the percentage point which best represents the percent of the other freshmen male students whom you feel you will surpass in terms of your first semester performance. That is, what percent of the freshmen male students do you believe will obtain a lower first semester grade point average than you will.

Example:



This student estimated that his performance would surpass 81% of the students. By the same token, he has also predicted that 19% of the freshmen male students will obtain higher first semester grades than he will.

Now estimate what percent of the other freshmen males you believe you will surpass in terms of your first semester grade point average.

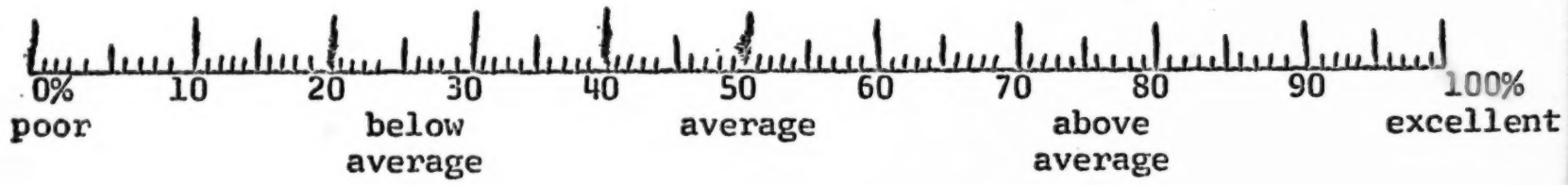


Fig. A. Self-evaluation rating scale with routine ("discussion") instructions.

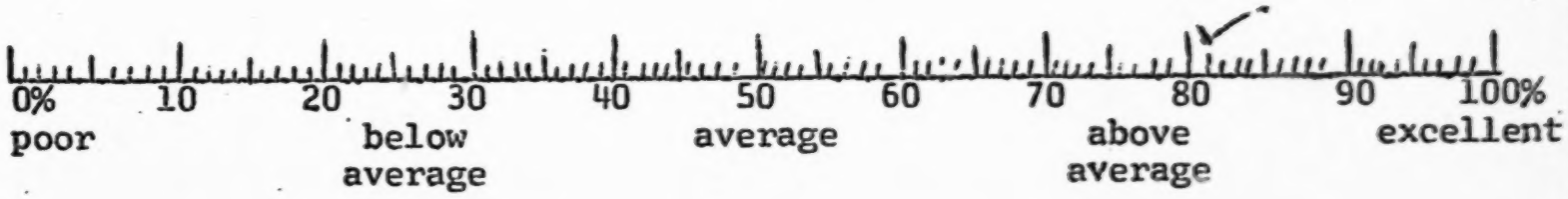
ESTIMATE OF FIRST SEMESTER ACADEMIC PERFORMANCE

Name _____
First Middle Initial Last

Your estimate of your first semester performance will be used as an index of your desire to do well in your coursework. As such, it may be used as a guide in placing you in some of our more challenging courses.

Below is shown a line with 100 percentage points on it. Mark as closely as possible the percentage point which best represents the percent of the other freshmen male students whom you feel you will surpass in terms of your first semester performance. That is, what percent of the freshman students do you believe will obtain a lower first semester grade point average than you will.

Example:



This student estimated that his performance would surpass 81% of the students. By the same token, he has also predicted that 19% of the freshmen male students will obtain higher first semester grades than he will.

Now estimate what percent of the other freshmen males you believe you will surpass in terms of your first semester grade point average.

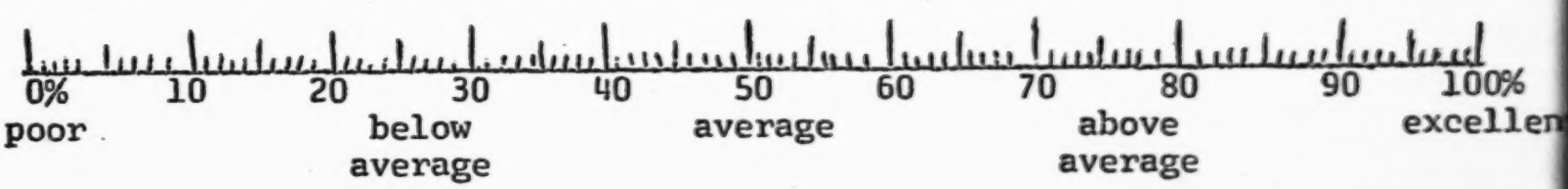


Fig. B. Self-evaluation rating scale with modified ("placement") instructions.

Table A

Intercorrelations of Academic Interest Scales
for School of Business Administration Students

(N = 72)

	U	N	O	O-U	Aca Ach	AIS-Short	AIS-Long	Predicted Grade-Point Average
Self-Rating Scale	.14	-.13	-.08	-.13	.07	.04	.17	.12
Rust & Ryan Scales								
Underachievers		-.53^{xx}	.03	-.62^{xx}	-.29^{x}	-.06	-.09	-.08
Normalachievers			-.14	.26^{x}	.04	.06	-.03	.09
Overachievers				.48^{xx}	.00	.24^{x}	.27^{x}	.10
O minus U					.24^{x}	.25^{x}	.14	.1[illegible]
Campbell & Johansson Scale								
Academic Achievement						.10	.14	.01
Martin Scales (LAM)								
AIS-Short						.39^{xx}		.14
AIS-Long								.20

^{x} $p<.05$
^{xx} $p<.01$

Table B

Intercorrelations of Academic Interest Scales
for A&S and SBA Students and "Placement" Students

		U	N	O	O-U	Acs Ach	AIS-Short	AIS-Long	Predicted Grade-Pt. Average
Self-Rating Scale:	A[a]	-.02	-.08	.06	.06	.31^{xx}	.00	.18^{xx}	.22^{xx}
	B	-.07	.10	-.05	.02	.38^{xx}	.12	.37^{xx}	.15
Rust & Ryan Scales									
Underachievers:	A		-.43^{xx}	-.16^{xx}	-.83^{xx}	-.11	-.12^{x}	-.12^{x}	-.10
	B		-.42^{xx}	-.14	-.82^{xx}	-.16	-.21^{x}	-.11	.06
Normalachievers:	A			-.01	.30^{xx}	-.14^{x}	.15^{xx}	.02	.02
	B			-.09	.26^{x}	-.11	.05	.02	-.18
Overachievers:	A				.60^{xx}	.17^{xx}	.30^{xx}	.37^{xx}	.15^{xx}
	B				.67^{xx}	.04	.27^{xx}	.10	.04
O minus U:	A					.20^{xx}	.25^{xx}	.26^{xx}	.17^{xx}
	B					.14	.31^{xx}	.14	-.02
Campbell & Johansson Scale									
Academic Achievement:	A						.09	.34^{xx}	.14^{x}
	B						.19	.39^{xx}	.29^{xx}
Martin Scales (LAM)									
AIS-Short:	A							.44^{xx}	.04
	B							.37^{xx}	-.12
AIS-Long	A								.16^{xx}
	B								.13

[a] A = A&S and SBA Students (N=294); B = "Placement" Students (N=94)

^{x} $p<.05$

^{xx} $p<.01$

Table C

Intercorrelations of Academic Interest Scales
High, Middle, and Low PGPA Students

		U	N	O	O-U	Aca Ach	AIS-Short	AIS-Long	Predicted Grade-Pt. Average
Self-Rating Scale:	H[a]	-.04	-.05	.01	.04	.13	.01	-.04	.05
	M	.00	-.03	.05	.01	.43^{xx}	.00	.21	.02
	L	-.12	-.07	.16	.18	.38^{xx}	.07	.17	.02
Rust & Ryan Scales									
Underachievers:	H		-.53^{xx}	-.15	-.90^{xx}	.00	-.21	-.18	-.01
	M		-.39^{xx}	-.23^{x}	-.88^{xx}	-.07	-.33^{xx}	-.21	.11
	L		-.28^{x}	-.22	-.84^{xx}	-.27^{x}	.07	.03	-.11
Normalachievers:	H			-.09	.40^{xx}	-.12	.16	.18	.04
	M			.14	.35^{xx}	-.03	.16	.20	-.07
	L			-.05	.22	-.17	.02	-.20	.01
Overachievers:	H			.57^{xx}	.23^{x}	.36^{xx}	.46^{xx}		.06
	M			.65^{xx}	.22^{x}	.45^{xx}	.31^{xx}		-.15
	L			.66^{xx}	.31^{x}	.41^{xx}	.40^{xx}		.04
O minus U:	H				.10	.33^{xx}	.35^{xx}		.03
	M				.17	.46^{xx}	.30^{xx}		-.14
	L				.38^{xx}	.14	.15		.13
Campbell & Johansson Scale									
Academic Achievement:	H					.35^{xx}	.21		.16
	M					.37^{xx}	.28^{xx}		.07
	L					.45^{xx}	.50^{xx}		-.08
Martin Scales (LAM)									
AIS-Short:	H						.68^{xx}		.08
	M						.61^{xx}		-.19
	L						.80^{xx}		.02
AIS-Long:	H								.03
	M								-.11
	L								-.06

[a] H = High PGPA (N=81); M = Middle PGPA (N=85); L = Low PGPA (N=56)

^{x} $p<.05$

^{xx} $p<.01$